

MOUNT RICHARDS PROJECT

## Diamond Drill Log - Hole 71-1

LOCATION: 39 + 95 N, 81 + 95 WSTARTED: March 17, 1971AZIMUTH: 32°COMPLETED: March 22, 1971COLLAR ELEVATION: 725'CORE SIZE: AQDIP AT COLLAR: -45°DEPTH: 450'CASING: 20' BW, 20' AWDRILLED BY: Connors Drilling Ltd.LOGGED BY: JYW

0'-20.5'

No Core.

20.5'-246.5'

Diorite-gabbro; c.g. mosaic white feldspar, dark grey-green hornblende, etc. Core is solid, recovery close to 100%. Reduction in grain size to m.g. becomes noticeable at 216', rock changing gradually to a porphyritic type, with 1/16" to 1/8" feldspar phenocrysts. The texture of the c.g. portion is gabbroic, the m.g. material being diorite.

246.5'-450'

Dacite (?), light grey, finely and evenly banded. Foliation at 75° to C.A. Pyrite disseminated throughout--about 1% overall, finely crystalline. Knots of epidote appear at rare intervals. Phenocrysts of hornblende (?) (1/16") are randomly distributed but common. Between 309' and 316' several chloritic sections with 5%-10% pyrite. Rock generally consists of quartz and feldspar. Zones of 10% py at 429' - 429.5', 431.5'-433'.

450'

END OF HOLE

The rock type is remarkably uniform from the gabbro contact down. No cpy observed, no strongly sheared zones.

file under 92B096

PROPERTY FILE

see 92B096 journal p.

MOUNT RICHARDS PROJECT

Diamond Drill Log - Hole 71-2

LOCATION: 21 + 82 N, 67 + 95 W	STARTED: March 23, 1971.
AZIMUTH: 32°	COMPLETED: April 2, 1971
COLLAR ELEVATION: 705'	CORE SIZE: AQ
DIP AT COLLAR: -45°	DEPTH: 744'
DIP AT 225': -46°	DRILLED BY: Connors Drilling Ltd.
DIP AT 721': -45°	LOGGED BY: JYW
CASING: 10' BW, 30' AW	

(a) SUMMARY LOG

0'-58' Diorite, porphyritic, with abundant 1/10" feldspar phenocrysts.

58'-744' Andesite, variably porphyritic, the phenocrysts generally being epidote. Narrow silicified zones frequent. Pyrite generally 1% of the rock, with concentrations of up to 15% over sections less than 1' in width. Chalcopyrite specks noted in two very short sections.

(b) ANALYSES

<u>FROM</u>	<u>TO</u>	<u>WIDTH</u>	<u>%Cu.</u>
709.6'	711.6'	2.0'	0.45

(c) DETAILED LOG

0'-8' Casing.

8'-58' Diorite, m.g., peppered throughout with 1/10" feldspar phenocrysts. Vague foliation to 51' then pronounced at 55° to C.A. Well-foliated section has scattered tiny pyrite crystals. 11' core lost 16'-52'; 3.5' core lost 47'-51'; 1.5' core lost 54'-58'.

58'-102' Andesite, medium grey to dull green, with abundant apple-green phenocrysts (epidote) generally 1/16" in diameter and also forming lenticles and knots of crystals along with feldspar. 1/32" pyrite crystals peppered throughout, often elongated along foliation. Pyrite makes up 1% of rock.

102'-117' Andesite, silicified, tending in composition towards dacite. Colour generally dull green. 5% pyrite. 10.8' core lost, 103'-115'.

117'-120' Andesite, chloritic, sheared. 1% pyrite. Core crumbly.

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- 397'-405' Andesite, chloritic, soft, breaks on many curving slickensides. Scattered quartz stringers, confused foliation. Pyrite 2%, patchy. From 401' core forms buttons, breaking on slip planes at 80° to C.A.
- 405'-427' Andesite, with epidote, as before. Foliation at 70° to C.A. 1% pyrite.
- 427'-436' Andesite, with many eyes and lenticles of quartz. Pyrite about 7%. Sheared at 90° to C.A.
- 441'-497' Andesite with abundant epidote phenocrysts (1/16"). Foliation 70° to C.A. Pyrite less than 1%. Epidote concentration increases to 65' then declines gradually.
- 497'-500' Andesite, silicified, gradationally with above. Very finely crystalline. Few epidote phenocrysts. Pyrite less than 1%.
- 500'-569' Andesite, with epidote, as before. Pyrite less than 1%, except in 3" white quartz veinlets at 524' where 5% pyrite, and again at 524.5' in 1" veinlet. Foliation poorly defined, grain size coarser than before. From 529' rapid increase in size of feldspars to 1/16". By 532' andesite is "normal" again, i.e., heavily spotted with epidote. 100% core recovery.
- 569'-570.5' Andesite, with quartz stringers; chloritic, sheared. 2% pyrite.
- 570.5'-582' Andesite, with epidote, as before. No apparent foliation. Pyrite less than 1%.
- 582'-585' Andesite, sheared, chloritic. Siliceous band at 584.5' carries 4% pyrite.
- 585'-631' Andesite, poorly foliated, heavily peppered with epidote. 2½" pod of epidote-quartz-feldspar at 615'.
- 631'-640' Andesite, finer, with less epidote than above. Foliation at 75° to C.A., pyrite 1%-2%.
- 640'-653' Andesite, with epidote, as before, but also with frequent thin bands of quartz-feldspar.
- 653'-659' Quartz with much intermingled andesite and calcite. Chloritic banding contorted. Pyrite 1%.
- 659'-666' Andesite, with good foliation at 70° to C.A. In top 2" two specks of chalc pyrite. Pyrite disseminated throughout 2% pyrite, tr. chalc pyrite.
- 666'-667.5' Andesite, chloritic, sheared, soft.
- 667.5'-744' Andesite, with abundant 1/16" epidote phenocrysts, epidote knots, quartz eyes. 1% pyrite.

- 120'-128' Andesite, with epidote, as before. Foliation at  $45^{\circ}$  -  $60^{\circ}$  to C.A. 1%-2% pyrite. 5' lost core.
- 128'-138' Andesite, silicified. Largely quartz and feldspar, with 2% disseminated pyrite. 9' lost core.
- 138'-147' Andesite, sheared. Foliation at  $40^{\circ}$  to C.A. 1% pyrite. 8' lost core.
- 147'-175' Andesite, with epidote, 1% pyrite, as before. 23' lost core. Core broken up small.
- 175'-217' Andesite, with epidote, 1% pyrite as before. Scattered  $\frac{1}{2}$ " knots of epidote and feldspar. Foliation at  $45^{\circ}$  to C.A. 35' lost core.
- 217'-232' Andesite, sheared, chloritic. Foliation steepens, becomes  $0^{\circ}$  to C.A. at 221'. Generally at  $30^{\circ}$  -  $40^{\circ}$  to C.A. 1% pyrite. 1' lost core.
- 232'-316' Andesite, with epidote, as before. Epidote phenocrysts variably abundant. 1% pyrite. At 310.5', 3" section with quartz eyes, 10% pyrite. 12.5' lost core.
- 316'-324' Andesite, as before, but less epidote and more quartz eyes. Pyrite generally 1%. Quartz-calcite veinlets at 255 (5") and 358 (2"), both barren except for pyrite at the margins. Lower contact of 5" veinlets is strongly sheared for  $\frac{1}{2}$ ". 4" section at 362' with abundant quartz eyes. 15% pyrite. 7" section at 364' strongly sheared. Chloritised, with stringers containing 10%-15% pyrite and quartz eyes. Foliation at  $50^{\circ}$  to C.A. 6' core lost, 334'-350'; 4' core lost 350'-365'.
- 366'-370' Andesite, chloritic, sheared. Foliation at  $45^{\circ}$  to C.A.
- 370'-377' Andesite, silicified. Foliation at  $40^{\circ}$  to C.A. 5' lost core.
- 377'-388' Andesite, as before. Foliation at  $40^{\circ}$  to C.A. At 386', 1" heavily chloritised zone. Strongly sheared 386'-388'. Pyrite generally 1%.
- 388'-392' Quartz, with ragged patches of andesite. 5% pyrite, in quartz and andesite. 1.4' lost core.
- 392'-393.5' Andesite, sheared at  $65^{\circ}$  to C.A., chloritic, decayed.
- 393.5'-395' Andesite, apparently without epidote. 2% disseminated pyrite, occasional quartz-carbonate blob.
- 395'-397' Quartz, white, barren, with occasional inclusions of andesite carrying 2% pyrite. 1.8' lost core, 395'-400'.

667.5'-744' (continued).

709.6'-711.6'	heavily mineralised zone.
709.6'-710.8'	80% pyrite, tr. cpy.
711.0'-711.1'	80% pyrite.

744'           END OF HOLE

MOUNT RICHARDS PROJECT

Diamond Drill Log - Hole 71-3

LOCATION: 4 + 60 S, 52 + 00 W

STARTED: April 4, 1971.

AZIMUTH: 32°

COMPLETED: April 6, 1971.

COLLAR ELEVATION: 955'

CORE SIZE: AQ

DIP AT COLLAR: -45°

DEPTH: 251'

DIP AT 258': -42°

DRILLED BY: Connors Drilling Ltd.

CASING: 6' BW, 10' AW

LOGGED BY: JYW/HGR

- 0-10 Casing.
- 10-19 Andesite, porphyritic, with abundant 1/16" phenocrysts of epidote. Coarser than most andesite. 17.5' - 17.8'. Grey acidic dyke, with irregular contacts. Andesite appears to be a tuff or fine agglomerate. Epidote occasionally forms round blobs to 1/2". At 14', one blob contains pyrite and traces of malachite. Pyrite crystals throughout section, less than 1%.
- 19-42.5 Andesite, sheared at 35-40° to C.A., chloritised, much quartz-carbonate replacement, to 50% in places. Foliation confused 34-35'.
- 42.5-66 Dacite - like andesite but paler, with epidote as before. Appears dioritic in spots.
- 66-164.5 Andesite, sheared at 50° to C.A., chloritised, finely banded dark green and white. 83-83.5 epidote and quartz. Epidote elsewhere in ragged patches; occasional quartz veins.
- 164.5-178 Andesite tuff or fine agglomerate (?)--lighter in colour than sheared material, with abundant epidote and ~~ag~~ite? phenocrysts. Appears to be a coarse pillow lava.
- 178-201.5 Andesite, sheared as before. 198'-201' well mineralised: 30% sulphides 65% chlorite.
- 201.5-203 Quartz - porphyry - sharp contacts.
- 203-204 Andesite, 1% pyrite, less than 1% cpy.
- 204-243 Quartz porphyry dyke, with occasional sheared sections.
- 243-251 Andesite - Scoriaceous flow material?
- 251 END OF HOLE

ANALYSES

<u>FROM</u>	<u>TO</u>	<u>WIDTH</u>	<u>%Cu.</u>
198.0'	201.0'	3.0'	3.06

MOUNT RICHARDS PROJECT

Diamond Drill Log - Hole 71-4

LOCATION: 14 + 00 S, 32 + 00 W

STARTED: April 7, 1971

AZIMUTH: 32°

COMPLETED: April 10, 1971

COLLAR ELEVATION: 635'

CORE SIZE: AQ

DIP AT COLLAR: -45°

DEPTH: 302'

DIP AT 302': -46°

DRILLED BY: Connors Drilling Ltd.

CASING: 4' BW, 10' AW

LOGGED BY: HGR/JYW

- 0'-4' Casing - 1' core, gabbro, porphyritic, ore speck of cpy.
- 4'-42' Diorite-Gabbro, porphyritic, with feldspar phenocrysts and rosettes, hypidiomorphic. Texture dioritic. Occasional biotite (?) phenocrysts lower contact somewhat sheared, chloritic.
- 42'-61' Diorite, sheared at 45°---to Core axis, leached, vuggy appearance, limonite stained, chloritic, some secondary calcite. No sign of sulphides.
- 61'-90.5' Diorite, porphyritic, with rosettes of feldspar up to 1" in diameter. (Brenton rosette porphyry (Clapp).) Lower contact zone finer 90'-90.5'.
- 90.5'-133.4' Diorite-gabbro, porphyritic, as above.
- 133.4'-148 Andesite, dark grey green, streaked white-grey, occasional quartz veins to 3/4" at 70° to C.A. These contain scattered crystals of chalcopyrite. Minute crystals of chalcopyrite in quartz streaks in andesite, but very scarce.
- 148'-150' Diorite, porphyritic.
- 150'-161.5' Andesite, sheared, with occasional 1/2" quartz veins. No sulphides observed.
- 161.5'-171' Diorite, porphyritic. Upper contact gradational. 3/4" quartz vein with chalcopyrite, at 45° to C.A. at 167'.
- 171'-175' Andesite, sheared; contacts with diorite vague.
- 175'-200' Diorite, porphyritic, with occasional rosettes of feldspar just above 9" chilled zone of lower contact.
- 200'-206.5' Andesite, sheared at 80° to C.A., occasional 1/2" quartz veins. No cpy.

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206.5'-302' Diorite, porphyritic. Some sections paler, look bleached, sporadic occurrence of feldspar rosettes.

302' END OF HOLE

ANALYSES

<u>FROM</u>	<u>TO</u>	<u>WIDTH</u>	<u>%Cu.</u>
133.4'	137.0'	3.6'	0.08
146.5'	148.0'	1.5'	0.12